

DESIGN MEMORANDUM

ON

YORK HARBOR, MAINE

ENGINEERING DIVISION WORKING COPY  
RETURN TO FILE

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND

CORPS OF ENGINEERS

WALTHAM, MASSACHUSETTS

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND  
CORPS OF ENGINEERS

424 TRAPELO ROAD  
WALTHAM 54, MASS.

DRESS REPLY TO:

VISION ENGINEER

REFER TO FILE NO.

NEDCW

6 April 1961

SUBJECT: Design Memorandum on York Harbor, Maine

TO: Chief of Engineers  
Department of the Army  
Washington, D. C.  
ATTN: ENGOW-E

1. Reference is made to letter ENGOW-PB dated 3 October 1960, Subject: Work Allowances for F.Y. 1961 - Construction, General Appropriation.

2. In accordance with EM 1110-2-1150, Engineering and Design Definite Project Studies, dated 5 October 1960, there are inclosed four copies of the design memorandum on the subject project. The work to be undertaken on this project involves dredging operations with no special hydraulic or excavation problems. The design memorandum is approved in accordance with paragraph 6 (b) of the above referenced authority.

Incl  
Design Memo (in quad)

SEYMOUR A. POTTER, JR.  
Brigadier General, USA  
Division Engineer

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND  
CORPS OF ENGINEERS  
424 Trapelo Road  
Waltham 54, Massachusetts

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DESIGN MEMORANDUM  
ON  
YORK HARBOR, MAINE

PERTINENT DATA

1. A summary of the physical features and costs of the existing project at York Harbor, Maine follows:

<u>Features</u>	<u>Present Estimate (1961)</u>
Completed modifications	\$13,400
Uncompleted modifications	
Dredge two anchorages	
8 feet deep	<u>470,000 *</u>
Total project costs	\$483,400

\* Includes \$69,000 local cash contribution and \$10,000 preauthorization study costs.

PROJECT AUTHORIZATION

2. The uncompleted modification of the existing project for York Harbor was authorized by the River and Harbor Act of 14 July 1960. The authorization provided for an anchorage basin north of Bragdon's Island 8 feet deep and about 5.2 acres in area, and an anchorage basin south of Bragdon's Island 8 feet deep and about 5.6 acres in area. The modification was authorized provided that, prior to construction, local interests agree to: (a) Contribute in cash 15 percent of the first cost of construction, a contribution presently estimated at \$69,000, to be paid in a lump sum prior to initiation of construction, the final allocation of cost to be made after the actual costs have been determined; (b) Provide without cost to the United States all lands, easements, rights-of-way, and suitable spoil-disposal areas necessary for the initial construction and subsequent maintenance, when and as required; (c) Hold and save the United States free from damages due to construction and maintenance of the project works; and (d) Provide and

maintain a suitable public landing, open to all on equal terms, to serve the anchorage basin south of Bragdon's Island.

3. The existing project for York Harbor was adopted by the River and Harbor Act of 3 March 1905 and provided for widening the channel off Bragdon's Island about 170 feet by dredging to a depth of 10 feet at mean low water and for removing to the same depth the point of projecting shoal just above. This work was completed in 1906. The River and Harbor Act of 1960 modified the existing project by providing for two anchorages, 8 feet deep, one north and one south of Bragdon's Island. No work has been done on this modification.

#### INVESTIGATIONS

4. Physical investigations carried out in support of the survey report contained in House Document 395, 86th Congress, 2d Session, are as follows:

- a. Hydrographic surveys made in 1955 and 1958.
- b. Topographic surveys made in 1948.
- c. Probings were made in 1958.

Subsequent to project authorization, a topographic survey was made in 1961 in connection with suitability of proposed spoil areas. Borings were taken in each anchorage area to determine the character of materials to be dredged and the presence of ledge in the anchorage area.

#### LOCAL COOPERATION

5. The Town Meeting held on 6 March 1961 voted to appropriate the required cash contribution and to provide the public landing. It is anticipated that all requirements of local cooperation will be met prior to issuance of invitations to bid for the construction work. Local interests are presently negotiating for construction of the landing and are securing the necessary spoil areas. The Town officials have executed the required assurances which have been accepted.

#### LOCATION AND TRIBUTARY AREA

6. York Harbor is at the mouth of the York River, a small stream emptying into the Atlantic Ocean, about 12 miles northeast of Portsmouth, New Hampshire and 41 miles southwest of Portland, Maine. The Town of York with a permanent population of over 3,200 is a well known summer resort. Catering to summer visitors, farming and the catching, processing and distribution of fish are the principal occupations. In 1958 a commercial fishing fleet of 42 boats and a recreational fleet of 60

boats were reported. In addition, 450 transient boats visited the harbor. The area is served by a network of good roads with connections to the Maine Turnpike about two miles northwest. Bus companies serve the town on regular schedules and rail connections are available at Portsmouth, New Hampshire, about seven miles southwest by highway.

#### PROJECT PLAN

7. The project plan of improvement under consideration in this memorandum involves dredging additional anchorage area in the interests of the existing and prospective fishing and recreational fleets. The plan, shown on the attached map, is the same as in the authorizing document and provides for two anchorage basins 8 feet deep: one, north of Bragdon's Island with an average width of 320 feet and average length of 700 feet, about 5.2 acres in area; and the other, south of Bragdon's Island with an average width of 450 feet and average length of 550 feet, about 5.6 acres in area. The proposed work can be undertaken either by hydraulic or by bucket dredge. Bids will be taken for both methods. Disposal on land will be on spoil areas furnished by local interests in accordance with requirements of local cooperation. Materials removed by scow will be disposed of at an approved sea dump. The improvement as authorized will be done under a single lump sum contract.

#### COST ESTIMATES

##### 8. Current Estimate of Costs (March 1961)

Channels - Dredging 213,000 cubic yards	\$375,000
ordinary materials @ \$1.75/c.y.	
Contingencies	50,000
Preauthorization Studies	10,000
Engineering and Design	4,000
Supervision and Administration	<u>31,000</u>
Total	\$470,000

## 9. Comparison of Costs

	<u>Document Estimate (1959)</u>	<u>Latest Approved Estimate (1960)</u>	<u>Current Estimate (1961)</u>
Channels-Dredging	\$425,000	\$425,000	\$425,000
Preauthorization Studies	10,000	10,000	10,000
Engineering & Design	4,000	4,000	4,000
Supervision & Administration	<u>31,000</u>	<u>31,000</u>	<u>31,000</u>
Total	\$470,000	\$470,000	\$470,000

## 10. Allocation of Costs

<u>Federal:</u>	<u>Document Estimate (1959)</u>	<u>Latest Approved Estimate (1960)</u>	<u>Current Estimate (1961)</u>
Dredging	-	\$361,000	\$361,000
Preauthorization Studies	-	10,000	10,000
Engineering & Design	-	3,000	3,000
Supervision & Administration	<u>-</u>	<u>27,000</u>	<u>27,000</u>
Total Federal Cost	\$401,000*	\$401,000	\$401,000

\*Not broken down by feature in document

### Non-Federal:

Dredging	-	\$ 64,000	\$ 64,000
Preauthorization Studies	-	0	0
Engineering & Design	-	1,000	1,000
Supervision & Administration	<u>-</u>	<u>4,000</u>	<u>4,000</u>
Sub-Total	\$ 69,000*	\$ 69,000	\$ 69,000
Public Landing	<u>10,000</u>	<u>10,000</u>	<u>10,000</u>
Total Non-Federal Costs	\$ 79,000	\$ 79,000	\$ 79,000

\*Not broken down by feature in document

## SCHEDULES FOR DESIGN AND CONSTRUCTION

11. Field investigations consisting of hydrographic and topographic surveys including probings made in connection with survey report are considered adequate and are being used for bidding purposes. In addition, borings were made in each anchorage area in March 1961 to determine the character of materials to be removed. Plans and specifications are scheduled for advertisement in April 1961 with construction scheduled to start about the first of June.

### Fund Requirements:

Allocated to date	\$401,000*
Additional funds required to complete	none

\*Includes \$10,000 preauthorization studies cost

## OPERATION AND MAINTENANCE

12. Maintenance of the project is the responsibility of the United States and consists of periodic dredging to restore project depths. Additional annual maintenance cost is estimated at \$3,000, involving the removal of about 1,500 cubic yards of materials.

## BENEFITS

13. The benefits expected to accrue from construction of the improvement are the same as those evaluated in the authorizing document.

### Benefits:

Elimination of damage to fishing craft	\$ 2,000
Elimination of damage to recreational craft	2,000
Increased fish catch (U.S. Fish & Wildlife Service report)	22,800
Increased use of present recreational fleet	2,600
16 new recreational boats	1,150
15 transferred boats	400
Prospective transient recreational fleet	3,000
Present transient recreational fleet	300
Land enhancement	<u>1,150</u>
Total benefits	\$35,400

14. The estimated annual carrying charges were based on an anticipated project life of 50 years. The interest rate was figured at  $2\frac{1}{2}\%$  for the Federal government and  $3\frac{1}{2}\%$  for local interests.

Computation of annual charges follows:

Federal:

Interest and amortization	\$14,000
Additional annual maintenance	<u>3,000</u>
	\$17,000

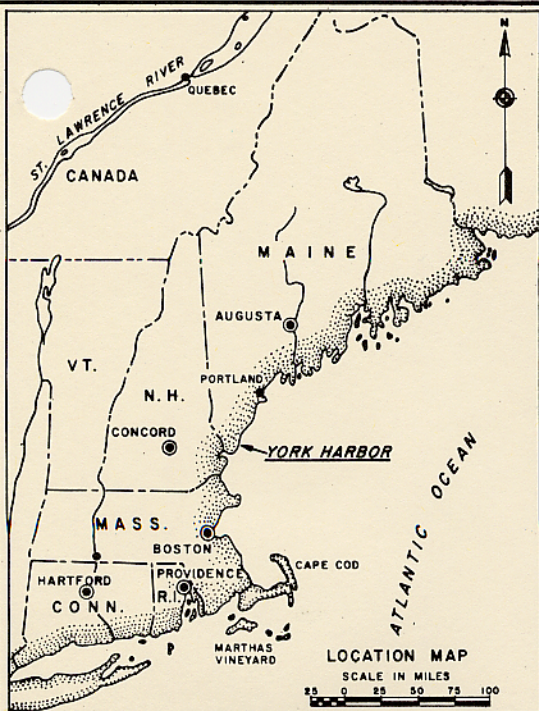
Non-Federal:

Interest and amortization	\$ 3,150
Total Annual Charges:	\$20,150
Benefit-Cost Ratio:	1.8 to 1

RECOMMENDATIONS

15. It is recommended that the project be constructed as authorized.





# YORK HARBOR



ANCHORAGE AREAS  
8 FEET DEEP AT M.L.W.

NEW HIGHWAY

POSSIBLE LOCATION  
OF TOWN LANDING

BRAGDON'S  
ISLAND

ANCHORAGE "A"

YORK HARBOR  
MARINE SERVICE

HARRIS  
ISLAND

REF

LORDS LOBSTER CO. WHARF  
(PILE AND TIMBER)  
DONNELLY'S WHARF  
(CITIES SERVICE)  
SEWELL LOBSTER CO.  
PHILBRICK'S WHARF  
(PILE AND TIMBER)

VINAL'S BOAT WHARF

AGAMENTICUS  
YACHT CLUB  
MARSHAL HOUSE LANDING

STAGE  
NECK

ROCKS



Dredge two  
8-foot anchorages

## YORK HARBOR MAINE

IN 1 SHEET  
200 0 200 400  
SCALE IN FEET  
NEW ENGLAND DIVISION, WALTHAM, MASS.